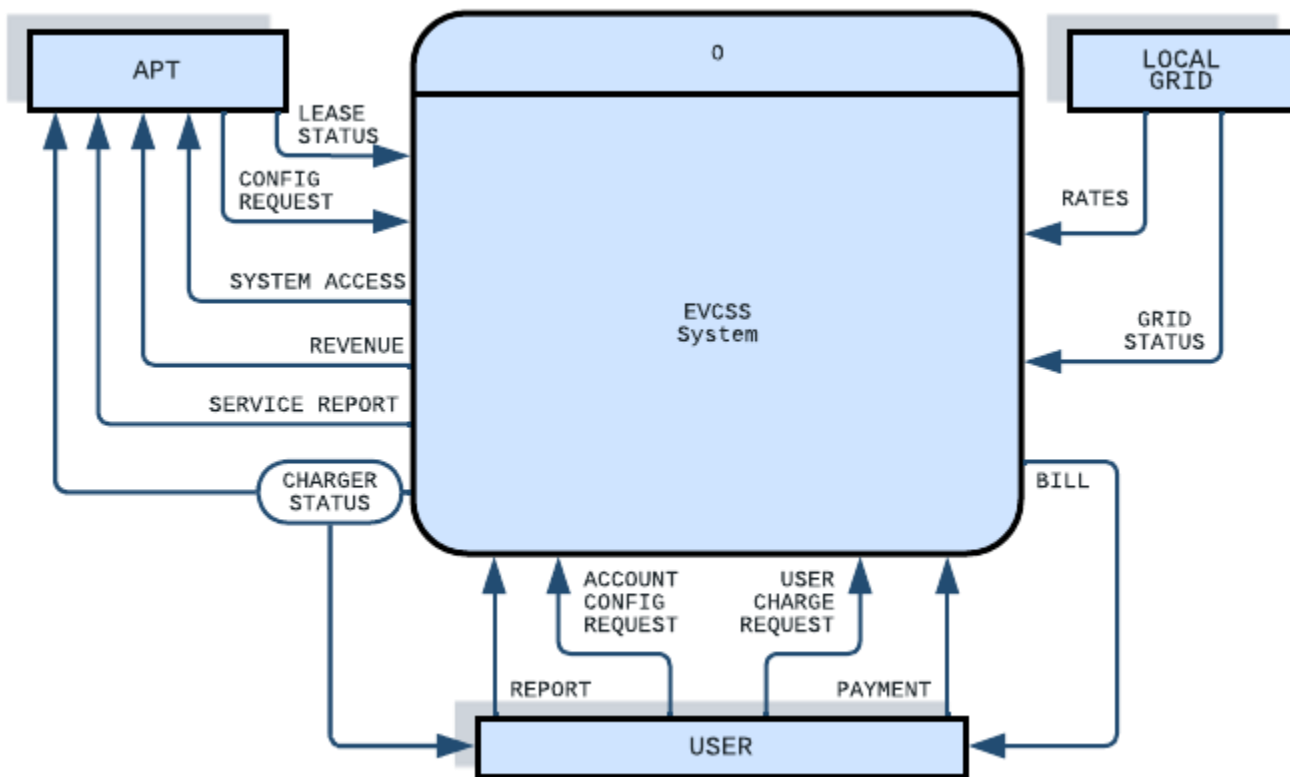# Case Study – 5
(50 points)
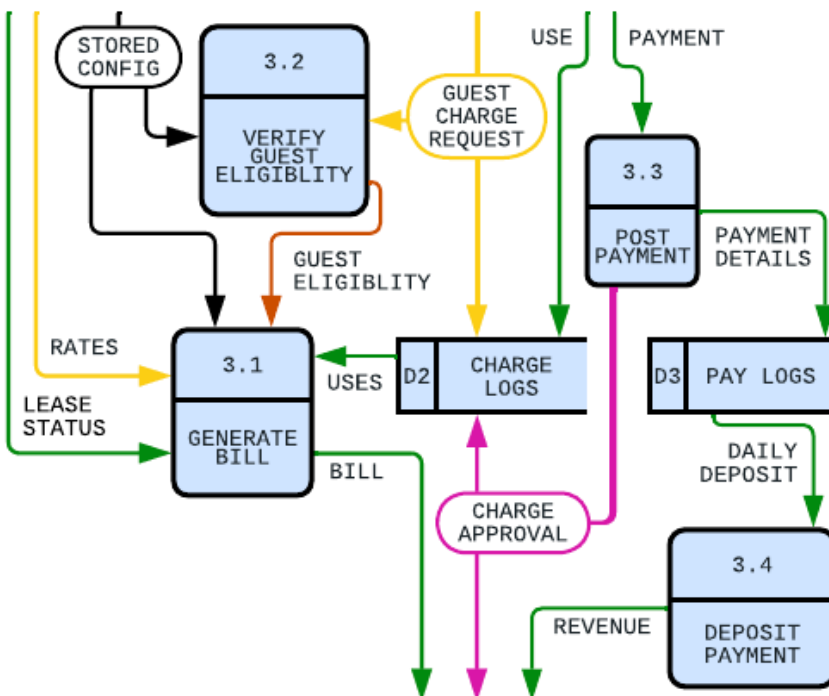
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Submission: Save this Word document with your answers as a PDF file and upload the PDF file to Canvas.

Build a set of Data Flow Diagrams for the EVCSS Project. Use one of the diagramming tools identified on the "External Tools Page" in Canvas.

- (10 pts) Context Diagram, Fig 5.11 & Fig 5.12

- (10 pts) Level 0 DFD, Fig 5.12 & Fig 5.13

- (10 pts) Level 1 DFDs (2 DFDs worth 5 pts each), Fig 5.14 & Fig 5.15

(10 pts) Build a Data Dictionary (Section 5.8, pp. 164-167) for the EVCSS Project using Excel, documenting the Data Elements, the Data Flows, Data Stores, Processes, and External Entities based on your data flow diagrams above.

EXTERNAL ENTITIES				
ENTITIY NAME	**DESCRIPTION**	**ALIAS**	**INPUT DATA FLOW**	**OUTPUT DATA FLOW**
USER	Tenants and Guests and their data		CHARGER STATUS	REPORT
			BILL	ACCOUNT CONFIG REQUEST
				USER CHARGE REQUEST
				PAYMENT
APT	Apartment employees and their data	STAFF	SYSTEM ACCESS	LEASE STATUS
			SYSTEM REPORT	CONFIG REQUEST
			CHARGER STATUS	
			REVENUE	
LOCAL GRID	Local electric grid			RATES
				GRID STATUS

PROCESSES				
PROCESS NAME	**DESCRIPTION**	**NUMBER**	**INPUT DATA FLOW**	**OUTPUT DATA FLOW**
HANDLE CHARGERS	Involves any input to our output from charging fleet	1.0	USER CHARGE REQUEST	STATUS
			STORED CONFIG	USE
			CHARGE APPROVAL	GUEST CHARGE REQUEST
HANDLE SYSTEM ACCESS	Involves any input to our output from EVCSS system	2.0	ACCOUNT CONFIG REQUEST	CHARGER STATUS
			REPORT	SYSTEM REPORT
			STATUS	SYSTEM ACCESS
			CONFIG REQUEST	UPDATED CONFIG
			STORED CONFIG	
HANDLE BILLING	Calculates and generates bills, processes and records payments	3.0	PAYMENT	BILL
			LEASE STATUS	CHARGE APPROVAL
			RATES	REVENUE
			GUEST CHARGE REQUEST	
			USES	
GENERATE BILL	Generates bills	3.1	RATES	BILL
			LEASE STATUS	
			USES	
			STORED CONFIG	
			GUEST ELIGIBILITY	
VERIFY GUEST ELIGIBILITY	Verifies if guest is eligible to use on demand charger	3.2	STORED CONFIG	GUEST ELIGIBILITY
			GUEST CHARGE REQUEST	
POST PAYMENT	Sends payment for processing by processor	3.3	PAYMENT	PAYMENT DETAILS
				CHARGE APPROVAL
DEPOSIT PAYMENT	Sends payment to respective parties	3.4	DAILY DEPOSIT	REVENUE

DATA STORES				
DATA STORE NAME	**DESCRIPTION**	**ATTRIBUTES**	**VOLUME**	**FREQUENCY**
CONFIGS	Handles all configuration settings for the system	UPDATED CONFIG	num_tenants + num_chargers + 1	On demand, not often
		STORED CONFIG		
CHARGE LOGS	Logs all successful and attempted charging events	CHARGE APPROVAL	Thousands	Constantly
		USE		
		USES		
		GUEST CHARGE REQUEST		
PAY LOGS	Logs all successful and attempted payments	PAYMENT DETAILS	Thousands	Monthly and on demand
		DAILY DEPOSIT		

(10 pts) Build 2 Decision tables (Section 5.9.4 pp. 170-174) for the EVCSS Project using Excel. One decision table must have at least 2 rules and another must have at least 3 rules.

VERIFY GUEST ELIGIBILITY				
Condition	**1**	**2**	**3**	**4**
Config enables guest charging	Y	Y	Y	N
Charger is on on-demand mode	Y	Y	N	-
Guest charge requested at charger	Y	N	-	-
Decision				
Enable charging	X			
Leave charging disabled		X	X	X

HANDLE SYSTEM ACCESS			
Condition	**1**	**2**	**3**
Received user config	Y	Y	N
Is same as previous config	N	Y	-
Decision			
Update config	X		
Disregard		X	X